Epitomes

Important Advances in Clinical Medicine

General and Family Practice

The Council on Scientific Affairs of the California Medical Association presents the following inventory of items of progress in general and family practice. Each item, in the judgment of a panel of knowledgeable physicians, has recently become reasonably firmly established, both as to scientific fact and important clinical significance. The items are presented in simple epitome, and an authoritative reference, both to the item itself and to the subject as a whole, is generally given for those who may be unfamiliar with a particular item. The purpose is to assist busy practitioners, students, researchers, and scholars to stay abreast of these items of progress in general and family practice that have recently achieved a substantial degree of authoritative acceptance, whether in their own field of special interest or another.

The items of progress listed below were selected by the Advisory Panel to the Section on General and Family Practice of the California Medical Association, and the summaries were prepared under its direction.

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Estrogen Replacement Therapy for Reducing Cardiovascular Disease

ESTROGEN REPLACEMENT THERAPY has been widely advocated and accepted for use in preventing osteoporosis in postmenopausal women. Yet, a more important effect may be its ability to decrease the incidence of cardiovascular disease in these women. Whereas premenopausal women have myocardial infarctions at a rate much lower than that of men of the same age, the rate of myocardial infarction in women in the first ten years after menopause approaches that in men. Myocardial infarction becomes the leading cause of death in women older than 50.

At least 16 prospective studies have reviewed the effects of exogenous estrogen on the risk of myocardial infarction. The Nurses' Health Study, which observed 121,700 married female registered nurses for ten years, established a 44% reduction in the risk of coronary artery disease for those women on estrogen replacement therapy. The Lipids Research Clinic study observed more than 2,000 women for nine years, and the death rate for cardiovascular disease for women on estrogen replacement therapy was a third of that for women not receiving therapy. The protective effect of estrogen replacement was not modified by smoking, alcohol use, obesity, or high blood pressure.

The exact mechanism by which estrogen replacement provides protection to postmenopausal women is not well understood. Estrogen does have a favorable effect on serum lipid profiles by increasing high-density lipoprotein (HDL) levels while decreasing total cholesterol and low-density lipoprotein levels. Women in the Lipids Research Clinic study had HDL levels 9 to 12 mg per dl (0.23 to 0.31 mmol per liter) higher than did nonusers. Reviewing data from the Framingham and the Lipid Research Clinic studies suggests that an increase in HDL levels of about 10 mg per dl (0.26 mmol per liter) is associated with a 50% to 60% decrease in cardiovascular risks. Other hypotheses for the protective effect of estrogen therapy include a reduction of endothelial hyperplasia and atherosclerosis, in addition to an enhanced production of prostacyclin.

When considering estrogen replacement, it is important to balance the risks versus the benefits of therapy. Whereas estrogen is definitely associated with endometrial cancer and an increased incidence of gallbladder disease, its relationship to breast cancer is controversial. In contrast to the use of oral contraceptives, estrogen replacement has not been associated with an increased incidence of venous thrombosis, thrombophlebitis, or pulmonary embolism. In addition, some studies have shown that postmenopausal estrogen replacement does not raise systolic or diastolic blood pressure in normotensive or hypertensive women.

Absolute contraindications to estrogen replacement therapy include acute liver disease or previously diagnosed breast or endometrial cancer. Relative contraindications include chronic liver disease, obesity, and a history of thromboembolism.

The possible benefits and risks to the cardiovascular system associated with the addition of progesterone to estrogen replacement have not been clearly defined. Although progesterone has been shown to decrease HDL levels, a recent study indicates that women using both estrogen and progestin had the same reduction in cardiovascular risk factors as women using estrogen only. On the other hand, another study reported that while the sequential use of estrogen and progestin had a favorable effect on the lipid profile, the effect was less than that of using estrogen alone. Any possible effect of progestins on cardiovascular risk is likely to be related to the dose and duration of the therapy.

Estrogen replacement has long been advocated for the prevention and treatment of osteoporosis. Newer infor-

mation indicates that it may have an even more important role in preventing life-threatening cardiovascular disease. The protective nature of estrogen on the cardiovascular system should provide a strong impetus for lifelong therapy. By educating and encouraging patients to consider estrogen replacement therapy, physicians may substantially contribute to a reduction of the risk of cardiovascular disease in their postmenopausal women patients.

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Sleeping Position and Sudden Infant Death Syndrome

THE SUDDEN INFANT DEATH SYNDROME (SIDS) is defined as the sudden and unexpected death of an infant in whom a thorough postmortem examination does not show an adequate explanation for death. It is the leading cause of death for infants beyond the perinatal period to 12 months of age. The peak incidence of sudden infant death is from 2 to 4 months of age; 80% of cases occur before age 5 months. Two of 1,000 infants die of SIDS. African Americans and Inuits appear to be at the greatest risk for SIDS and Asians and whites at the least risk.

Epidemiologic studies have identified the following risk factors for the syndrome: prematurity, birth weight low for gestational age, low Apgar scores, inadequate prenatal care, low socioeconomic status, mother younger than 21 years, mother using illicit drugs during pregnancy, and siblings died of SIDS. Several studies have recently reported a striking association between SIDS and sleeping in the prone position. A study from Avon County, England, found a relative risk of 8.8 for sleeping in the prone position. This same study found overheating (by clothing and bedding) to be an independent risk factor for sudden infant death. Studies from the Netherlands and Australia have corroborated this association between SIDS and sleeping prone.

Following the discovery of this association, health care professionals in Avon County altered their advice on sleeping position for infants, recommending instead the side or supine positions—except in infants with chronic gastroesophageal reflux or certain congenital deformities, such as the Pierre Robin syndrome. A follow-up study found that the prevalence of prone sleeping fell from 58% to 28% and the incidence of SIDS fell from 3.5 per 1,000 to 1.7 per 1,000.

The reason for the association between the prone sleeping position and SIDS is unknown, but some researchers have shown the likelihood of suffocation by rebreathing expired air in infants sleeping prone on certain types of infant bedding, particularly those that are excessively soft and malleable.

The pathophysiology of SIDS remains a riddle. Primary care physicians should encourage their patients to receive prenatal care and forego smoking and drug abuse. Current research suggests that physicians should counsel parents to avoid "bundling" infants with excessive clothing and blankets and to recommend placing infants without contraindications in the supine or side positions to sleep.

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Outpatient Management of Asthma

PRIMARY CARE PHYSICIANS have been asked to help reduce the morbidity and mortality of asthma in the 1990s. In response to the almost 30% rise in asthma prevalence and mortality between 1980 and 1987, the expert panel of the National Asthma Education Program has issued guidelines to improve the detection and treatment of asthma.

Asthma is a chronic condition with acute exacerbations. It is now considered an inflammatory disease in which bronchospasm occurs because of airway inflammation. Treatment requires a continuous care approach to control symptoms, prevent exacerbations, and reduce chronic airway inflammation. The education program's guidelines place emphasis on anti-inflammatory therapy through the use of inhaled corticosteroids and inhaled cromolyn sodium as first-line therapy for moderate to severe asthma.

Clinicians must use objective measures of pulmonary function, such as a home peak-flow meter, to assess and monitor each person's asthma. With appropriate pharmacologic therapy, environmental control, and education, patients and their families can achieve control of this condition. Just as people with diabetes mellitus on insulin therapy can monitor their blood glucose levels at home, patients with asthma can objectively monitor their condition by measuring peak expiratory flow rates at home. By taking regular measurements, patients with moderate to severe asthma can prevent severe exacerbations by early intervention. Measurements are obtained at 7 AM and 7 PM each day, as well as before and after the inhalation of bronchodilators. When the peak expiratory flow rate is between 80% and 100% of the patient's personal best, no changes are needed. When it drops to between 50% and